

AMENDMENTS TO THE CLAIMS

1 - 67. (Cancelled)

68. (New) A semiconductor wafer treatment system, comprising: a reaction chamber, a segmented shower head, means for introducing a gas into the reaction chamber through the shower head, means for independently controlling the flow of gas through different segments of the shower head to adjust the processing rates in areas of a wafer corresponding to the different segments, means for measuring the thickness of the wafer in the different areas, and means for adjusting the flow of gas through the segments in accordance with the thickness measurements to produce a wafer of predetermined thickness and uniformity.

69. (New) The system of Claim 68 including means for increasing the flow of etchant gas to at least one of the segments to provide an increased etch rate in the corresponding area(s) of the wafer.

70. (New) The system of Claim 68 including means for adding a diluent or etching suppressant gas to the processing gas to decrease the etch rate in at least one section of the wafer.

71. (New) The system of Claim 68 including means for adding a diluent or etching suppressant to the processing gas, and means for decreasing the flow of etchant gas through at least one of the segments to provide a decreased etch rate in the corresponding area(s) of the wafer.

72. (New) The system of Claim 68 including means for interrupting the gas flow through at least one of the segments to provide a decreased etch rate in the corresponding area(s) of the wafer.

73. (New) A semiconductor wafer etching system, comprising: a reaction chamber, a segmented shower head, means for introducing an etching gas into the reaction chamber through the shower head, means for independently controlling the flow of the etching gas through different segments of the shower head to adjust the etch rates in areas of a wafer corresponding to the different segments, means for measuring the thickness of the wafer in the different areas after only a portion of the material has been removed in order to determine the effectiveness of the current flow rates on etch uniformity, and means for adjusting the flow of gas through the segments in accordance with the thickness measurements to control the etch rates in the different areas.

74. (New) A semiconductor wafer etching system, comprising: a reaction chamber, a segmented shower head, means for introducing an etching gas into the reaction chamber through the shower head, means for independently controlling the flow of the etching gas through different segments of the shower head to adjust the etch rates in areas of a wafer corresponding to the different segments, means for measuring the thickness of the wafer in the different areas after etching is complete to determine the effectiveness of the flow rates on etch uniformity, and means for adjusting the flow rates in the different areas in accordance with the measured thicknesses for use on subsequent wafers.

75. (New) A system for depositing a film on a semiconductor wafer, comprising: a reaction chamber, a segmented shower head, means for introducing a gas into the reaction chamber through the shower head, means for independently controlling the flow of gas through different segments of the shower head to adjust film deposition rates in areas of a wafer corresponding to the different segments, means for measuring the thickness and uniformity of the film in the different areas, and means for adjusting the flow of gas through the segments in accordance with the measurements to compensate for non-uniformities in the film deposited on the wafer.

76. (New) The system of Claim 75 including means for decreasing the gas flow through at least one of the segments to decrease the deposition rate in the corresponding area(s) of the wafer.

77. (New) The system of Claim 75 including means for adding a diluent to the gas in at least one of the segments to decrease the deposition rate in the corresponding area(s) of the wafer.

78. (New) The system of Claim 75 including means for adding a diluent to the gas, and means for decreasing the flow gas in at least one of the segments to decrease the deposition rate in the corresponding area(s) of the wafer.

79. (New) The system of Claim 75 including means for interrupting the gas flow through at least one of the segments to provide a decreased deposition rate in the corresponding area(s) of the wafer.

80. (New) A system for depositing a film on a semiconductor wafer, comprising: a reaction chamber, a segmented shower head, means for introducing a gas into the reaction chamber through the shower head, means for independently controlling the flow of the etching gas through different segments of the shower head to adjust deposition

rates in areas of a wafer corresponding to the different segments, means for measuring the thickness of the wafer in the different areas after only a portion of the film has been deposited in order to determine the effectiveness of the current flow rates on film uniformity, and means for adjusting the flow of gas through the segments in accordance with the thickness measurements to control the deposition rates in the different areas.

81. (New) A system for depositing a film on a semiconductor wafer, comprising: a reaction chamber, a segmented shower head, means for introducing an etching gas into the reaction chamber through the shower head, independently controlling the flow of the etching gas through different segments of the shower head to adjust deposition etch rates in areas of a wafer corresponding to the different segments, means for measuring the thickness of the wafer in the different areas after etching is complete to determine the effectiveness of the flow rates on deposition uniformity, and means for adjusting the flow rates in the different areas in accordance with the measured thicknesses for use on subsequent wafers.